

## Product Evaluation

SHU168 | 0521

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

**Evaluation ID:** SHU-168

**Effective Date:** May 1, 2021

**Re-evaluation Date:** May 2025

**Product Name:** Clear Bertha Polycarbonate Storm Panels

**Manufacturer:** Eastern Metal Supply  
9400 Telge Road  
Houston, TX 77095  
(800) 996-6061

### General Description:

The clear carbonate panels are 2.25" deep corrugations with a wall thickness of 0.100". The panels are manufactured from polymeric resin with a thermoplastic polymer tensile strength of  $F_y=8.7$  ksi, flexural strength  $F_{by} = 12.5$  ksi, and flexural modulus of 340 ksi. The panels are available in a half clear panel (9.120" wide, 6.00" exposure), a single wide panel (15.120", 12.000" exposure), and a double wide clear panel (27.120" wide, 24.000" exposure). The panels are overlapped, a minimum of one corrugation, to provide an unlimited width of opening perpendicular to the panel span.

**Product Identification:** The storm panels have a permanent label that identifies the manufacturer (Eastern Metal Supply, Inc.); the name of the product (2-1/4" Clear Bertha Storm Panel); the missile Level (Missile Level D); the test standards (ASTM E 330, ASTM E 1886, and ASTM E 1996); and the TDI evaluation report number (SHU-168).

**Compliance:** The shutters comply with ASTM E 330-14, ASTM E 1886-13a, and ASTM E 1996-14a.

**Design Drawings:**

"Clear Bertha Storm Panels;" Eastern Metal Supply, Inc.; Drawing No. 21-028; Sheets 1–5 of 5; dated January 21, 2021; revised January 21, 2021, signed, sealed, and dated January 27, 2021 by Walter A. Tillit, P.E. The stated drawings will be referred to as approved drawings in this report.

**Mounting Conditions:** The shutter assembly may be mounted in the following configurations:

- Wall Mount
- Build Out
- Ceiling & Floor Mount

Each of the mounting conditions may be combined.

**Maximum Allowable Design Wind Pressure:** The maximum allowable design pressure is +105, -110 psf. Refer to the approved drawings for specific design pressure limitations.

**Maximum Panel Span:** The maximum panel span is 10'-0". Refer to the approved drawings for specific panel span limitations.

**Maximum Width:** The width is unlimited.

**Wall Construction:** The storm panels may be mounted to the following types of wall framing:

- Concrete (minimum compressive strength 3,000 psi)
- Hollow block or grout filled concrete masonry units (CMU), ASTM C-90
- Wood (minimum Southern Yellow Pine dimension lumber; SG=0.55)

**Minimum Separation from Glass:** The minimum glazing separation is specified in the approved drawings. The storm panels may not be installed on essential facilities as defined in the IBC.

**Impact Resistance:** This shutter assembly satisfies the Texas Department of Insurance's criteria for protection from windborne debris. The assembly passed Missile Level D as specified in ASTM E 1996-14a. The assembly may be installed at any height on the structure as long as the design pressure rating for the assembly is not exceeded. The storm panels may not be installed on essential facilities as defined in the IBC.

**Installation:**

**General Installation Requirements:** The storm panels must be installed in accordance with the manufacturer's installation instructions, the approved drawings, and this product evaluation report. Copies of the approved drawings must be available on the jobsite during inspection of the shutter assembly.

**Anchorage:** The storm panels must be anchored to the structure in accordance with the approved drawings. Anchorage of the storm panels to concrete, hollow or grout filled block concrete

masonry units (CMU), and wood wall framing must follow the mounting conditions and fastener options specified on the approved drawings and the wall construction requirements in this evaluation report.

**Note:** Keep the manufacturer's installation instructions and the approved drawings available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.